

Five-membered heterocycles with one heteroatom – pyrroles, furans and thiophenes – nomenclature, synthesis and applications. Five-membered heterocycles with two heteroatoms – imidazoles, pyrazoles, thiazoles, isothiazoles, oxazoles and isoxazoles – nomenclature, synthesis and applications.

Six-membered heterocycles with one heteroatom – pyridines – nomenclature, synthesis and applications. Six-membered heterocycles with two heteroatoms – pyridazines, pyrimidines and pyrazines – nomenclature, synthesis and applications.

Seven-membered heterocycles with one heteroatom – Azepines, oxepines and thiepins. Fused heterocycles – indoles, quinolines, isoquinolines, coumarines, benzofurans and purines.

**TEXT BOOKS / REFERENCES:**

1. Raj K. Bansal, “ *Heterocyclic Chemistry*”, New age International Pvt. Ltd., New Delhi, fourth edition, 2005.
2. Jerry March, “ *Advanced Organic Chemistry: Reactions, Mechanisms and Structure*”, John Wiley and Sons Inc, fourth edition, 2007.
3. R.O.C. Norman and J. M. Coxon, “ *Principles of organic synthesis*”, Nelson Thornes, third edition, 2005